

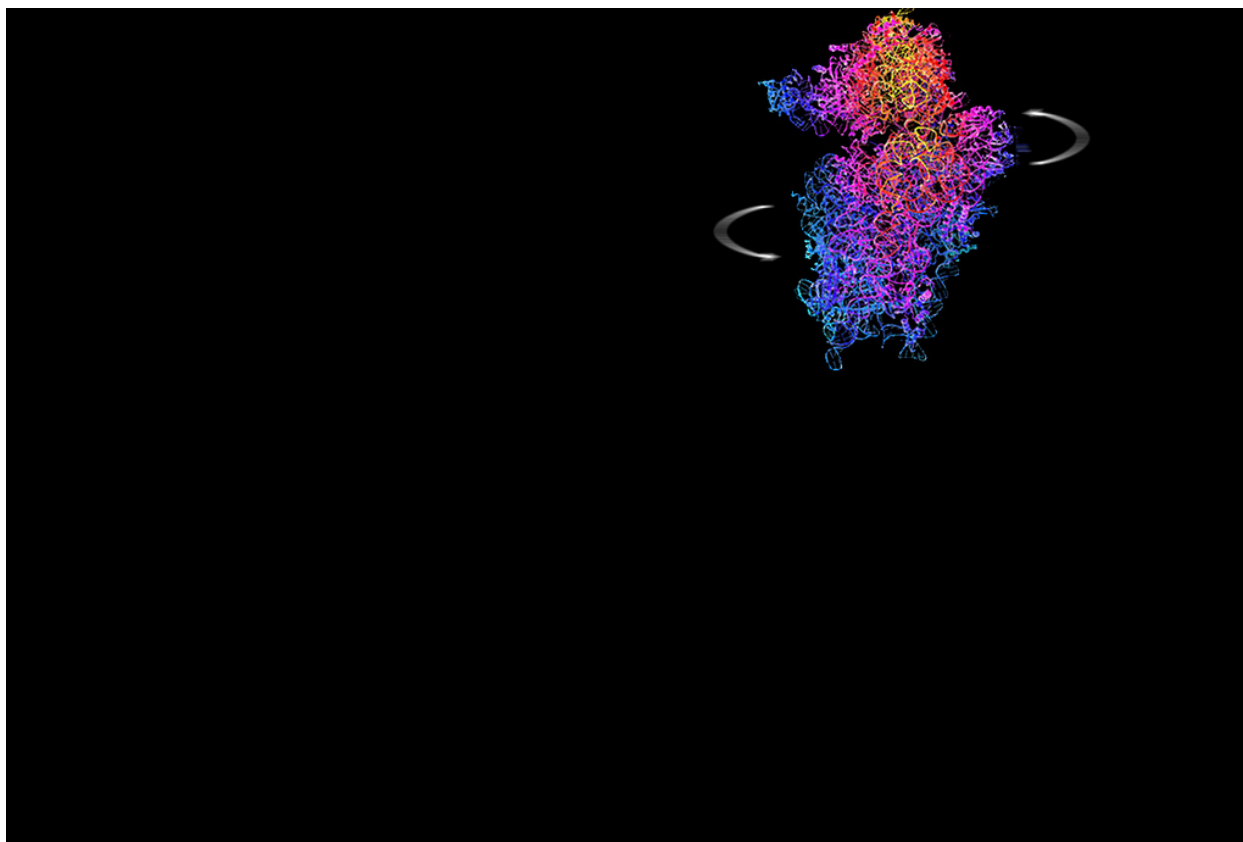


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## Insight into Alzheimer's, cancer, anemia gleaned from ribosome research

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## Insight into Alzheimer's, cancer, anemia gleaned from ribosome research

A groundbreaking study of the human ribosome by an international team of researchers, including scientists from Los Alamos National Laboratory, is revealing that the tiny molecular machine is far more versatile than previously understood.

Minor changes in its sequencing can change its operation, allowing it to adapt to a changing environment.

From a practical standpoint, these first studies of the atomistic mechanism of the human ribosome open a window into a range of diseases, from anemia, to cancer, to Alzheimer's disease.

For more than a decade, Los Alamos has been successfully involved in applying computational approaches for modeling the structure and dynamic aspects of large and biologically important molecular machines such as the ribosome.

Cracking the mechanism of human ribosomes could eventually aid health research, including enhancing the efficacy of antibiotics, about 50 percent of which target ribosomes; in addition, malformed human ribosomes are related to many different human diseases.

It is within the ribosome, found in all living cells, that proteins are created, making the ribosome one of life's most fundamental machines.

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**Los Alamos National Laboratory**

[www.lanl.gov](http://www.lanl.gov)

**(505) 667-7000**

**Los Alamos, NM**

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